

## **RAW SEQUENCE LISTING**

**The Biotechnology Systems Branch of the Scientific and Technical  
Information Center (STIC) no errors detected.**

Application Serial Number: 10/559,752  
Source: IFWP  
Date Processed by STIC: 08/08/2006

# ***ENTERED***



IFWP

## RAW SEQUENCE LISTING

DATE: 08/08/2006

PATENT APPLICATION: US/10/559,752

TIME: 09:30:06

Input Set : A:\16336-27PC.ST25.txt

Output Set: N:\CRF4\08082006\J559752.raw

3 <110> APPLICANT: UNIVERSITY OF WASHINGTON  
 4 LIEBER, Andre  
 5 SHAYAKHMETOV, Dmitry M.  
 7 <120> TITLE OF INVENTION: CAPSID-MODIFIED ADENOVIRUS VECTORS AND METHODS OF USING THE  
 SAME  
 9 <130> FILE REFERENCE: 16336-27PC  
 C--> 11 <140> CURRENT APPLICATION NUMBER: US/10/559,752  
 C--> 12 <141> CURRENT FILING DATE: 2005-12-06  
 14 <150> PRIOR APPLICATION NUMBER: US 60/466,858  
 15 <151> PRIOR FILING DATE: 2003-05-01  
 17 <160> NUMBER OF SEQ ID NOS: 8  
 19 <170> SOFTWARE: PatentIn version 3.1  
 21 <210> SEQ ID NO: 1  
 22 <211> LENGTH: 185  
 23 <212> TYPE: PRT  
 24 <213> ORGANISM: adenovirus  
 26 <400> SEQUENCE: 1  
 28 Asp Lys Leu Thr Leu Trp Thr Thr Pro Ala Pro Ser Pro Asn Cys Arg  
 29 1 5 10 15  
 32 Leu Asn Ala Glu Lys Asp Ala Lys Leu Thr Leu Val Leu Thr Lys Cys  
 33 20 25 30  
 36 Gly Ser Gln Ile Leu Ala Thr Val Ser Val Leu Ala Val Lys Gly Ser  
 37 35 40 45  
 40 Leu Ala Pro Ile Ser Gly Thr Val Gln Ser Ala His Leu Ile Ile Arg  
 41 50 55 60  
 44 Phe Asp Glu Asn Gly Val Leu Leu Asn Asn Ser Phe Leu Asp Pro Glu  
 45 65 70 75 80  
 48 Tyr Trp Asn Phe Arg Asn Gly Asp Leu Thr Glu Gly Thr Ala Tyr Thr  
 49 85 90 95  
 52 Asn Ala Val Gly Phe Met Pro Asn Leu Ser Ala Tyr Pro Lys Ser His  
 53 100 105 110  
 56 Gly Lys Thr Ala Lys Ser Asn Ile Val Ser Gln Val Tyr Leu Asn Gly  
 57 115 120 125  
 60 Asp Lys Thr Lys Pro Val Thr Leu Thr Ile Thr Leu Asn Gly Thr Gln  
 61 130 135 140  
 64 Glu Thr Gly Asp Thr Thr Pro Ser Ala Tyr Ser Met Ser Phe Ser Trp  
 65 145 150 155 160  
 68 Asp Trp Ser Gly His Asn Tyr Ile Asn Glu Ile Phe Ala Thr Ser Ser  
 69 165 170 175  
 72 Tyr Thr Phe Ser Tyr Ile Ala Gln Glu  
 73 180 185  
 76 <210> SEQ ID NO: 2  
 77 <211> LENGTH: 185  
 78 <212> TYPE: PRT

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79 &lt;213&gt; ORGANISM: adenovirus

81 &lt;400&gt; SEQUENCE: 2

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83 Asp Lys Leu Thr Leu Trp Thr Thr Pro Asp Pro Ser Pro Asn Cys Arg
84 1      5      10      15
87 Ile His Ser Asp Asn Asp Cys Lys Phe Thr Leu Val Leu Thr Lys Cys
88      20      25      30
91 Gly Ser Gln Val Leu Ala Thr Val Ala Ala Leu Ala Val Ser Gly Asp
92      35      40      45
95 Leu Ser Ser Met Thr Gly Thr Val Pro Ser Val Ser Ile Phe Leu Arg
96      50      55      60
99 Phe Asp Gln Asn Gly Val Leu Met Glu Asn Ser Ser Leu Lys Lys His
100 65      70      75      80
103 Tyr Trp Asn Phe Arg Asn Gly Asn Ser Thr Asn Ala Asn Pro Tyr Thr
104      85      90      95
107 Asn Ala Val Gly Phe Met Pro Asn Leu Leu Ala Tyr Pro Lys Thr Gln
108      100     105     110
111 Ser Gln Thr Lys Asn Asn Ile Val Ser Gln Val Tyr Leu His Gly Asp
112      115     120     125
115 Lys Thr Lys Pro Met Ile Leu Thr Ile Thr Leu Asn Gly Thr Ser Glu
116      130     135     140
119 Ser Thr Glu Thr Ser Glu Val Ser Thr Tyr Ser Met Ser Phe Thr Trp
120 145     150     155     160
123 Ser Trp Glu Ser Gly Lys Tyr Thr Thr Glu Thr Phe Ala Thr Asn Ser
124      165     170     175
127 Tyr Thr Phe Ser Tyr Ile Ala Gln Glu
128      180     185

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131 &lt;210&gt; SEQ ID NO: 3

132 &lt;211&gt; LENGTH: 182

133 &lt;212&gt; TYPE: PRT

134 &lt;213&gt; ORGANISM: adenovirus

136 &lt;400&gt; SEQUENCE: 3

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138 Asp Pro Leu Thr Leu Trp Thr Thr Pro Asp Pro Pro Pro Asn Cys Ser
139 1      5      10      15
142 Leu Ile Gln Glu Leu Asp Ala Lys Leu Thr Leu Cys Leu Thr Lys Asn
143      20      25      30
146 Gly Ser Ile Val Asn Gly Ile Val Ser Leu Val Gly Val Lys Gly Asn
147      35      40      45
150 Leu Leu Asn Ile Gln Ser Thr Thr Thr Val Gly Val His Leu Val
151      50      55      60
154 Phe Asp Glu Gln Gly Arg Leu Ile Thr Ser Thr Pro Thr Ala Leu Val
155 65      70      75      80
158 Pro Gln Ala Ser Trp Gly Tyr Arg Gln Gly Gln Ser Val Ser Thr Asn
159      85      90      95
162 Thr Val Thr Asn Gly Leu Gly Phe Met Pro Asn Val Ser Ala Tyr Pro
163      100     105     110
166 Arg Pro Asn Ala Ser Glu Ala Lys Ser Gln Met Val Ser Leu Thr Tyr
167      115     120     125
170 Leu Gln Gly Asp Thr Ser Lys Pro Ile Thr Met Lys Val Ala Phe Asn
171      130     135     140

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174 Gly Ile Thr Ser Leu Asn Gly Tyr Ser Leu Thr Phe Met Trp Ser Gly
175 145          150          155          160
178 Leu Ser Asn Tyr Ile Asn Gln Pro Phe Ser Thr Pro Ser Cys Ser Phe
179          165          170          175
182 Ser Tyr Ile Thr Gln Glu
183          180
186 <210> SEQ ID NO: 4
187 <211> LENGTH: 182
188 <212> TYPE: PRT
189 <213> ORGANISM: adenovirus
191 <400> SEQUENCE: 4
193 Asp Pro Leu Thr Leu Trp Thr Thr Pro Asp Pro Pro Pro Asn Cys Thr
194 1          5          10          15
197 Leu Arg Gln Glu Leu Asp Ala Lys Leu Thr Leu Cys Leu Thr Lys Asn
198          20          25          30
201 Glu Ser Ile Val Asn Gly Ile Val Ser Leu Ile Gly Val Lys Gly Asp
202          35          40          45
205 Leu Leu His Ile Gln Pro Thr Thr Thr Thr Val Gly Leu His Leu Val
206          50          55          60
209 Phe Asp Arg Gln Gly Arg Leu Val Thr Thr Thr Pro Thr Ala Leu Val
210 65          70          75          80
213 Pro Gln Ala Ser Trp Gly Tyr Lys Gln Gly Gln Ser Val Ser Ser Ser
214          85          90          95
217 Ala Val Ala Asn Ala Leu Gly Phe Met Pro Asn Val Ser Ala Tyr Pro
218          100          105          110
221 Arg Pro Asn Ala Gly Glu Ala Lys Ser Gln Met Leu Ser Gln Thr Tyr
222          115          120          125
225 Leu Gln Gly Asp Thr Thr Lys Pro Ile Thr Met Lys Val Val Phe Asn
226          130          135          140
229 Gly Asn Ala Thr Val Asp Gly Tyr Ser Leu Thr Phe Met Trp Thr Gly
230 145          150          155          160
233 Val Ser Asn Tyr Leu Asn Gln Gln Phe Ser Thr Pro Ser Cys Ser Phe
234          165          170          175
237 Ser Tyr Ile Ala Gln Glu
238          180
241 <210> SEQ ID NO: 5
242 <211> LENGTH: 185
243 <212> TYPE: PRT
244 <213> ORGANISM: adenovirus
246 <400> SEQUENCE: 5
248 Asp Lys Arg Thr Leu Trp Thr Thr Pro Asp Thr Ser Pro Asn Cys Lys
249 1          5          10          15
252 Ile Asp Gln Asp Lys Asp Ser Lys Leu Thr Leu Val Leu Thr Lys Cys
253          20          25          30
256 Gly Ser Gln Ile Leu Ala Asn Val Ser Leu Ile Val Val Asp Gly Lys
257          35          40          45
260 Tyr Lys Ile Ile Asn Asn Asn Thr Gln Pro Ala Leu Lys Gly Phe Thr
261          50          55          60
264 Ile Lys Leu Leu Phe Asp Glu Asn Gly Val Leu Met Glu Ser Ser Asn

```

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Input Set : A:\16336-27PC.ST25.txt

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```

265 65          70          75          80
268 Leu Gly Lys Ser Tyr Trp Asn Phe Arg Asn Glu Asn Ser Ile Met Ser
269          85          90          95
272 Thr Ala Tyr Glu Lys Ala Ile Gly Phe Met Pro Asn Leu Val Ala Tyr
273          100          105          110
276 Pro Lys Pro Thr Ala Gly Ser Lys Tyr Ala Arg Asp Ile Val Tyr
277          115          120          125
280 Gly Asn Ile Tyr Leu Gly Gly Lys Pro Asp Gln Pro Val Thr Ile Lys
281          130          135          140
284 Thr Thr Phe Asn Gln Glu Thr Gly Cys Glu Tyr Ser Ile Thr Phe Asp
285 145          150          155          160
288 Phe Ser Trp Ala Lys Thr Tyr Val Asn Val Glu Phe Glu Thr Thr Ser
289          165          170          175
292 Phe Thr Phe Ser Tyr Ile Ala Glu Gln
293          180          185
296 <210> SEQ ID NO: 6
297 <211> LENGTH: 194
298 <212> TYPE: PRT
299 <213> ORGANISM: adenovirus
301 <400> SEQUENCE: 6
303 Ser Ile Asn Thr Leu Trp Thr Gly Ile Asn Pro Pro Pro Asn Cys Gln
304 1          5          10          15
307 Ile Val Glu Asn Thr Asn Thr Asn Asp Gly Lys Leu Thr Leu Val Leu
308          20          25          30
311 Val Lys Asn Gly Gly Leu Val Asn Gly Tyr Val Ser Leu Val Gly Val
312          35          40          45
315 Ser Asp Thr Val Asn Gln Met Phe Thr Gln Lys Thr Ala Asn Ile Gln
316          50          55          60
319 Leu Arg Leu Tyr Phe Asp Ser Ser Gly Asn Leu Leu Thr Glu Glu Ser
320 65          70          75          80
323 Asp Leu Lys Ile Pro Leu Lys Asn Lys Ser Ser Thr Ala Thr Ser Glu
324          85          90          95
327 Thr Val Ala Ser Ser Lys Ala Phe Met Pro Ser Thr Thr Ala Tyr Pro
328          100          105          110
331 Phe Asn Thr Thr Thr Arg Asp Ser Glu Asn Tyr Ile His Gly Ile Cys
332          115          120          125
335 Tyr Tyr Met Thr Ser Tyr Asp Arg Ser Leu Phe Pro Leu Asn Ile Ser
336          130          135          140
339 Ile Met Leu Asn Ser Arg Met Ile Ser Ser Asn Val Ala Tyr Ala Ile
340 145          150          155          160
343 Gln Phe Glu Trp Asn Leu Asn Ala Ser Glu Ser Pro Glu Ser Asn Ile
344          165          170          175
347 Ala Thr Leu Thr Thr Ser Pro Phe Phe Phe Ser Tyr Ile Thr Glu Asp
348          180          185          190
351 Asp Asn
355 <210> SEQ ID NO: 7
356 <211> LENGTH: 196
357 <212> TYPE: PRT
358 <213> ORGANISM: adenovirus

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Input Set : A:\16336-27PC.ST25.txt

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360 &lt;400&gt; SEQUENCE: 7

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362 Asn Ile Asn Thr Leu Trp Thr Gly Ile Asn Pro Thr Glu Ala Asn Cys
363 1          5          10          15
366 Gln Met Met Asp Ser Ser Glu Ser Asn Asp Cys Lys Leu Ile Leu Thr
367          20          25          30
370 Leu Val Lys Thr Gly Ala Leu Val Thr Ala Phe Val Tyr Val Ile Gly
371          35          40          45
374 Val Ser Asn Asn Phe Asn Met Leu Thr Thr Tyr Arg Asn Ile Asn Phe
375          50          55          60
378 Thr Ala Glu Leu Phe Phe Asp Ser Ala Gly Asn Leu Leu Thr Ser Leu
379 65          70          75          80
382 Ser Ser Leu Lys Thr Pro Leu Asn His Lys Ser Gly Gln Asn Met Ala
383          85          90          95
386 Thr Gly Ala Ile Thr Asn Ala Lys Ser Phe Met Pro Ser Thr Thr Ala
387          100          105          110
390 Tyr Pro Phe Asn Asn Asn Ser Arg Glu Lys Glu Asn Tyr Ile Tyr Gly
391          115          120          125
394 Thr Cys His Tyr Thr Ala Ser Asp His Thr Ala Phe Pro Ile Asp Ile
395          130          135          140
398 Ser Val Met Leu Asn Gln Arg Ala Ile Arg Ala Asp Thr Ser Tyr Cys
399 145          150          155          160
402 Ile Arg Ile Thr Trp Ser Trp Asn Thr Gly Asp Ala Pro Glu Gly Gln
403          165          170          175
406 Thr Ser Ala Thr Thr Leu Val Thr Ser Pro Phe Thr Phe Tyr Tyr Ile
407          180          185          190
410 Arg Glu Asp Asp
411          195

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414 &lt;210&gt; SEQ ID NO: 8

415 &lt;211&gt; LENGTH: 12

416 &lt;212&gt; TYPE: PRT

417 &lt;213&gt; ORGANISM: adenovirus

419 &lt;400&gt; SEQUENCE: 8

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421 Ser Lys Cys Asp Cys Arg Gly Glu Cys Phe Cys Asp
422 1          5          10

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**VERIFICATION SUMMARY**

PATENT APPLICATION: US/10/559,752

DATE: 08/08/2006

TIME: 09:30:07

Input Set : A:\16336-27PC.ST25.txt

Output Set: N:\CRF4\08082006\J559752.raw

L:11 M:270 C: Current Application Number differs, Replaced Current Application Number

L:12 M:271 C: Current Filing Date differs, Replaced Current Filing Date